

Agenda item : F-2.2

40th Argos Operations Committee meeting
prepared by CLS
Date : May 29th, 2006

SYSTEM USE

1. Global system use between April 2005 and April 2006

The number of platforms seen each day and averaged over one month (see table 1) increased over one year from 7773 in April 2005 to 8821 platforms in April 2006 which represents a **13.5%** increase. This increase is lower than last year (**26.9%**) and closer to the usual value (13.2% in 2004). The yearly increase averaged over the last three years has been **17.8%** and it has been **13.5%** over the last six years.

Table 1 gives the breakdown of operating platforms by domain of application and a synthesis by category of system use : Sciences, Fishing monitoring, Sensitive use, and Tests.

The number of active platforms, i.e. seen at least once in a month (see table 2) increased during the same period from 14320 to 15776 which represents a **10.2%** increase. It was **23.2%** last year.

Table 2 gives the same breakdown by application and system use as table 1 but for active platforms.

Figure 1 shows the increase of all Argos platforms over the last seventeen years. The lower curve is the average number of platforms seen each day, also called “operating” or “transmitting” platforms. The upper curve is the total number of “active” platforms seen at least once in the month. The difference between these two curves has increased regularly since 1988 until June 2000. The ratio which has reached 2 in 2000 is now stable around **1.9**.

Figure 2 shows the increase in each category of system use over the last ten years.

Figures 3 and 4 show the trend of active platforms in the sensitive use and science categories over the last ten years. Details concerning the sensitive use are given in the non environmental activity report. Oceanography and Wildlife continue to grow faster than other scientific applications.

The number of buoys whose data were sent onto the GTS increased from approximately 1100 in April 2005 to more than 1300 in April 2006 (see breakdown by country on figure 5). Concerning drifting buoys only, the histogram shown in figure 6 gives for each country, the total number of buoys (2210) and the number whose data were sent onto the GTS, 1144, i.e. **51%**, slightly better than last year (48%).

As displayed in figure 8, in May 2006, the Argo network includes nearly 2500 active floats (1800 in April 2005) and 98% of them are transmitting onto the GTS (information provided by Jcommops).

2. Geographical distribution of platforms :

Figure 7 shows the system occupancy in reference to the Argos2 on-board equipment capacity. The average system occupation rate is now more than **20 %** of the Argos2 capacity.

The Argos 2 capacity was defined by a number of Erlangs giving the elementary probability of reception of 50% which is considered as acceptable for an operational use of the system. The maximum system occupation rate is observed in South America and Indonesia with a maximum between 5.5 and 6 Erlangs at a bit more than 50% of the capacity. The chart was drawn by using data received during 12 hours during one day only (April 19th 2006).

Figures 9, 11 and 10 show the ground distribution of active platforms of different types such as animals, ocean platforms, vessels, fixed stations seen in one day at the end of May 2006. For each platform, only the last known position was used to draw the chart.

Table 1 : 2005-2006 Argos “operating” platforms

Operating PTTs (seen daily and averaged monthly)	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	% year
Earth sciences	60	46	62	61	66	65	61	83	61	57	68	67	53		-11.7%
Hydrology	514	526	505	521	528	542	545	552	557	409	407	408	410		-20.2%
Meteorology	319	310	292	301	301	323	350	358	351	341	338	333	336		5.4%
Oceanography	2005	2151	2131	2208	2270	2388	2457	2505	2561	2565	2585	2582	2574		28.4%
Wildlife	1088	1217	1246	1277	1293	1283	1240	1178	1149	1097	1117	1183	1239		13.9%
Fishing	3051	3246	3206	3280	3203	3147	3028	3189	2994	3048	3054	3161	3186		4.4%
Humanitarian	16	15	16	15	14	11	13	15	13	9	22	27	28		75.0%
Episodic	19	13	21	19	84	10	22	48	46	49	72	14	41		115.8%
Law enforcement	117	116	126	131	123	116	111	119	118	123	119	141	149		27.4%
Homeland security	364	381	379	398	405	410	407	408	409	419	439	462	479		31.6%
Test	220	214	244	258	209	227	225	222	242	343	366	344	326		48.2%
TOTAL	7773	8235	8228	8469	8496	8522	8459	8677	8501	8460	8588	8722	8821		13.5%
Science	3986	4250	4236	4368	4458	4601	4653	4676	4678	4469	4516	4572	4612		15.7%
Fishing	3051	3246	3206	3280	3203	3147	3028	3189	2994	3048	3054	3161	3186		4.4%
Sensitive	516	525	542	563	626	547	553	590	586	600	652	644	697		35.1%
Test	220	214	244	258	209	227	225	222	242	343	366	344	326		48.2%
TOTAL	7773	8235	8228	8469	8496	8522	8459	8677	8501	8460	8588	8722	8821		13.5%

Table 2 : 2005-2006 Argos “active” platforms

Active platforms (seen at least once in the month)	2005											2006					% YEAR
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY			
Earth sciences	153	89	184	118	166	212	199	234	124	156	168	258	105		-31.4%		
Hydrology	550	547	541	542	550	560	570	575	588	422	423	421	421		-23.5%		
Meteorology	406	397	376	378	394	420	455	467	451	445	412	403	424		4.4%		
Oceanography	4473	4765	4912	4814	4851	4892	5109	5097	5257	5308	5291	5411	5353		19.7%		
Wildlife	3210	3456	3526	3546	3649	3607	3544	3234	3282	3241	3465	3628	3476		8.3%		
Fishing	3945	4179	4079	4137	4019	3995	4172	4044	3925	3822	3761	4153	4086		3.6%		
Humanitarian operations	320	322	344	319	270	213	269	319	288	186	377	463	479		49.7%		
Episodic	32	30	43	96	155	41	72	88	70	155	134	36	75		134.4%		
Law enforcement	268	275	287	285	253	236	253	258	238	253	266	322	302		12.7%		
Homeland security	398	407	419	420	421	429	425	433	471	452	477	506	520		30.7%		
Test & others	565	572	849	777	568	738	697	646	836	761	756	714	535		-5.3%		
TOTAL	14320	15039	15560	15432	15296	15343	15765	15395	15530	15201	15530	16315	15776		10.2%		
Science	8792	9254	9539	9398	9610	9691	9877	9607	9702	9572	9759	10121	9779		11.2%		
Fishing	3945	4179	4079	4137	4019	3995	4172	4044	3925	3822	3761	4153	4086		3.6%		
Sensitive	1018	1034	1093	1120	1099	919	1019	1098	1067	1046	1254	1327	1376		35.2%		
Test	565	572	849	777	568	738	697	646	836	761	756	714	535		-5.3%		
TOTAL	14320	15039	15560	15432	15296	15343	15765	15395	15530	15201	15530	16315	15776		10.2%		

Figure 1 : All Argos platforms...

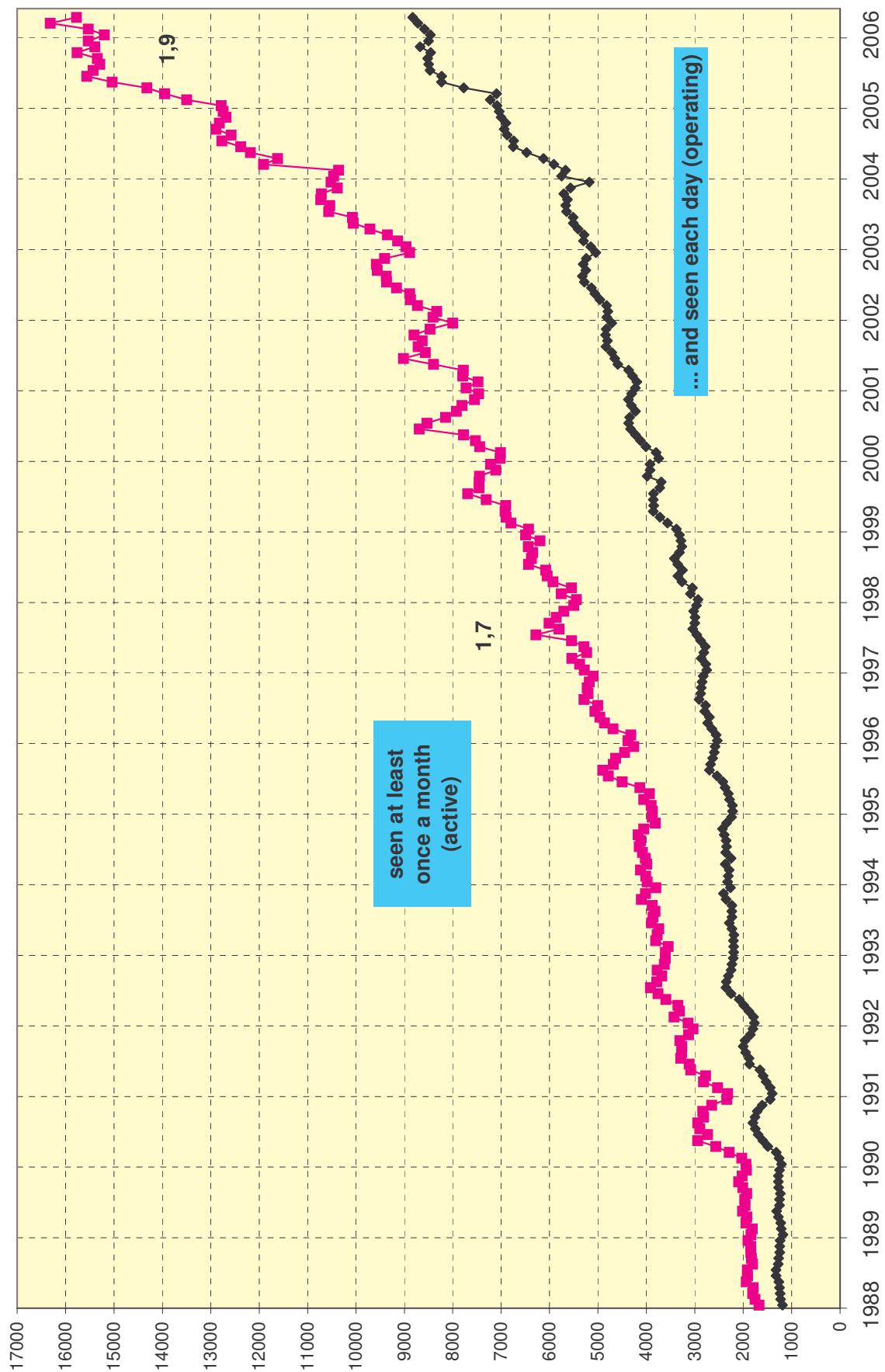


Figure 2 : Active platforms per use (incl. Tests)

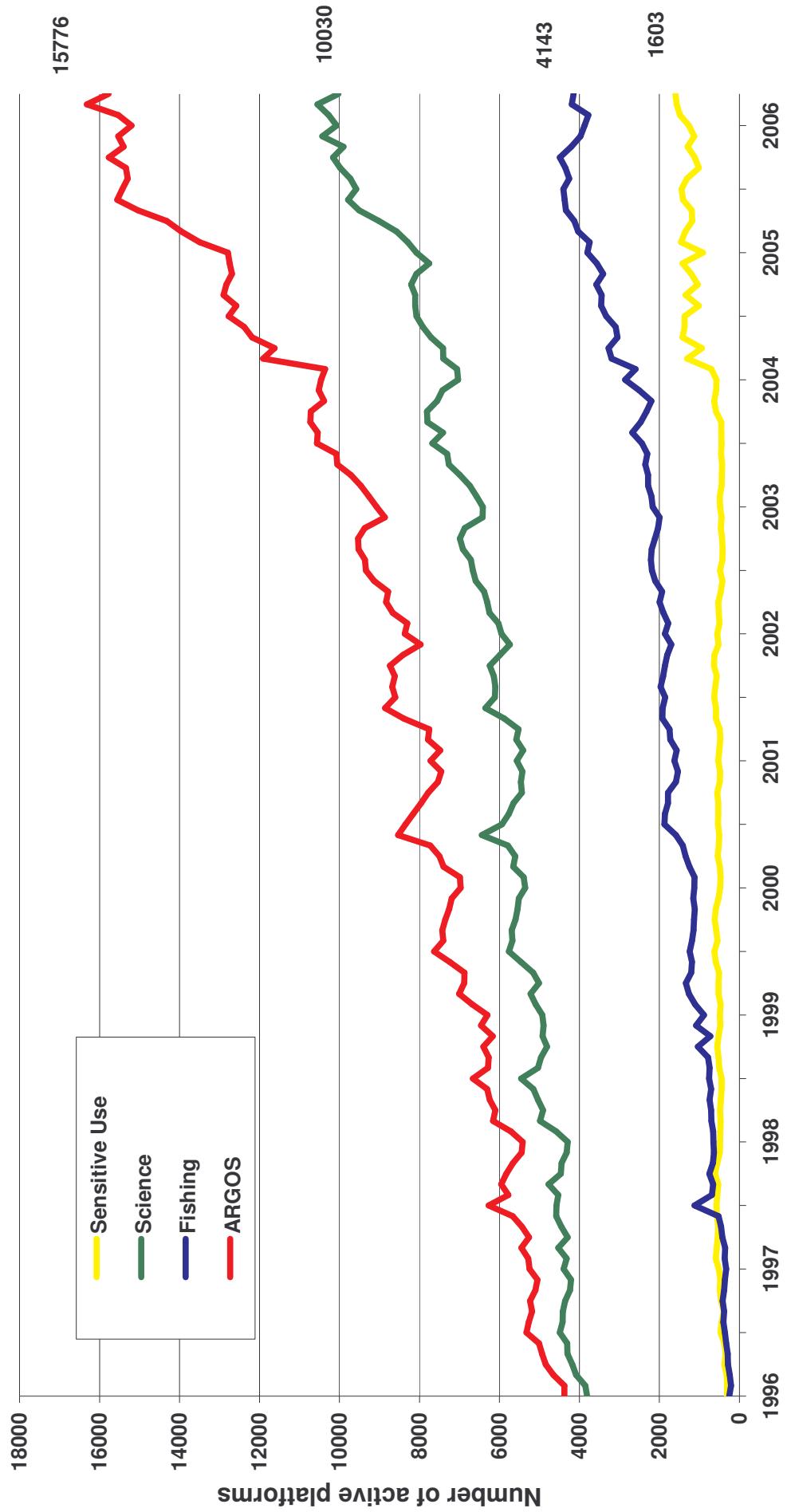


Figure 3 : Active platforms in Sensitive use

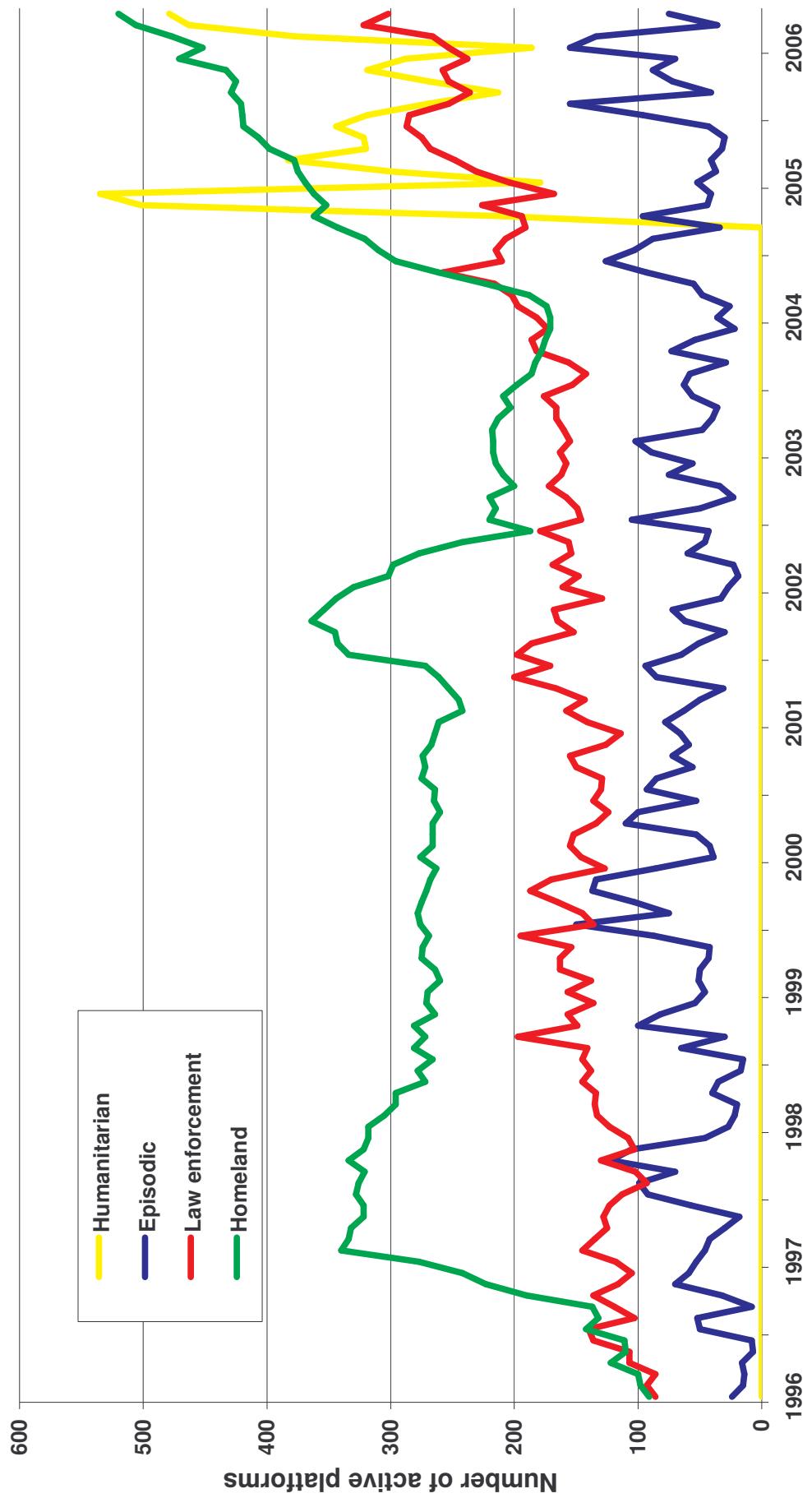


Figure 4 : Active platforms in Sciences

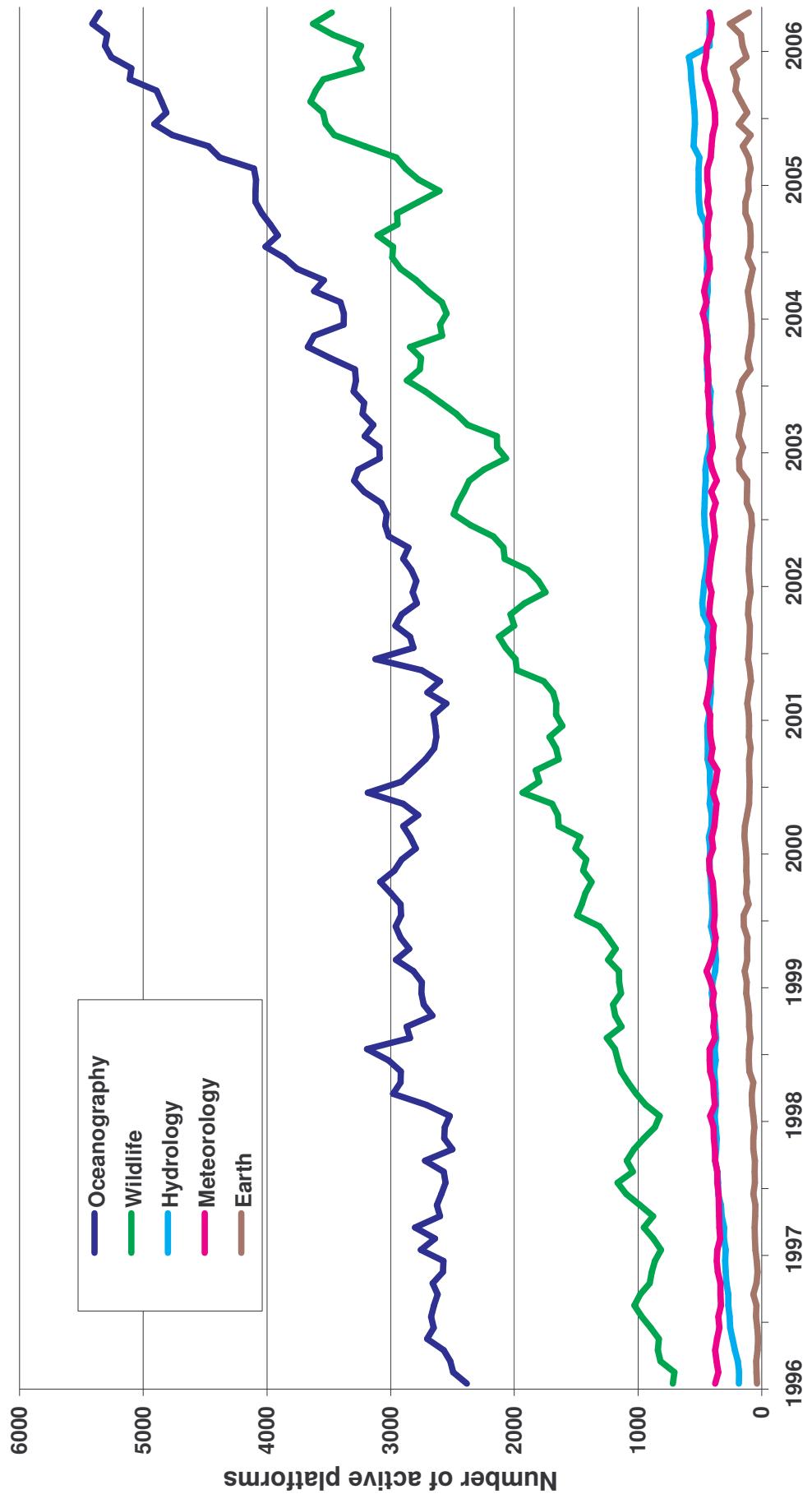


Figure 5 : Operational data buoys in April 2006

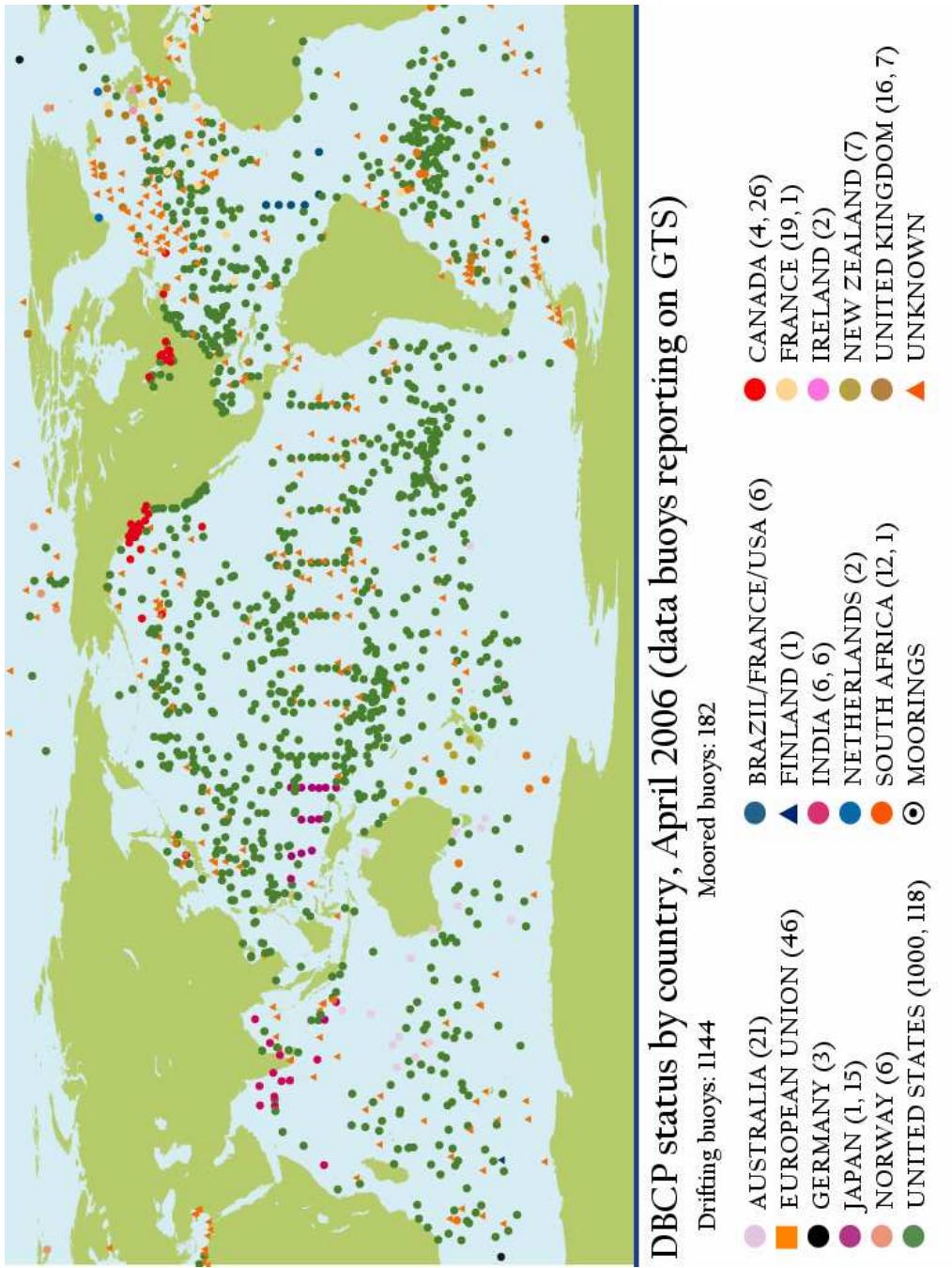


Figure 6 : Drifting buoys

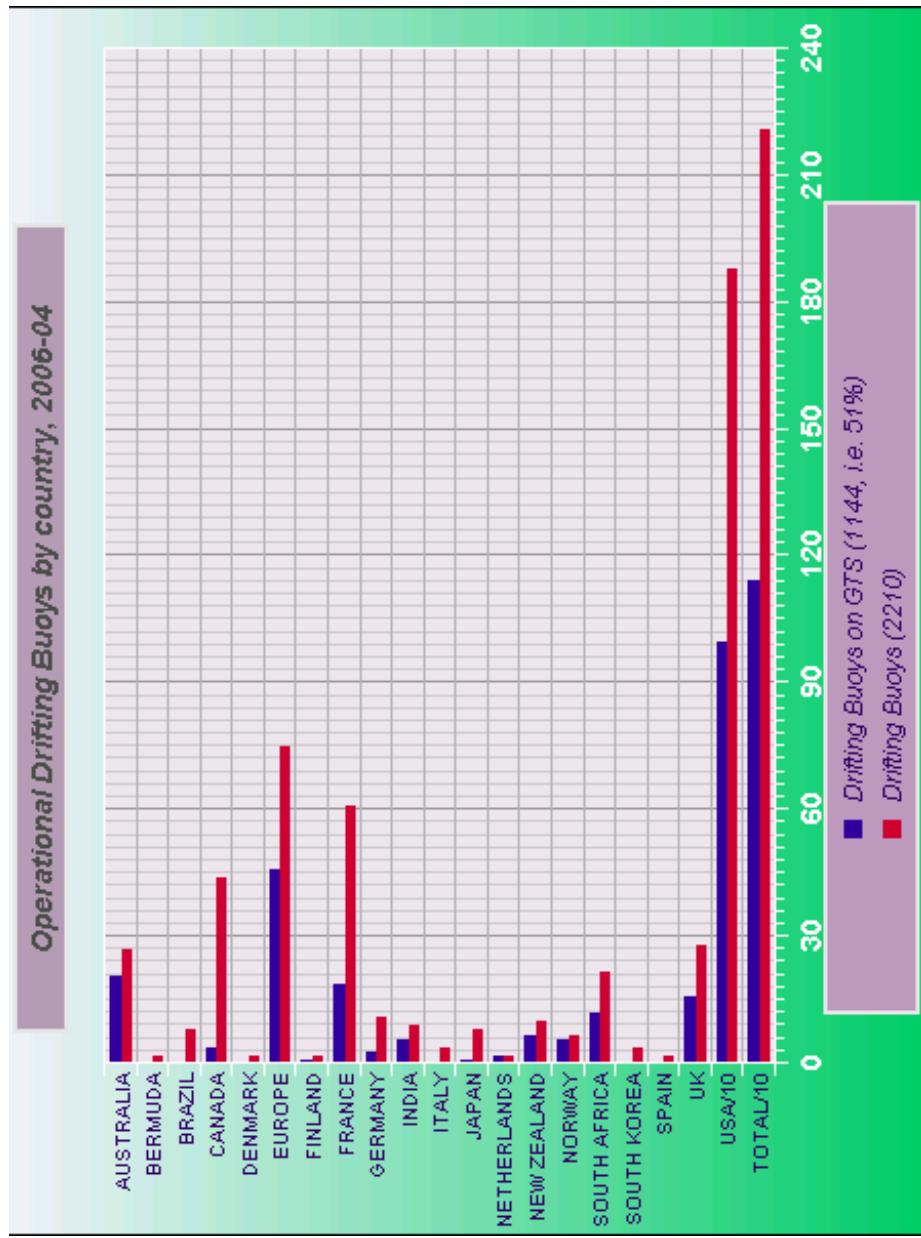


Figure 7 : Argo network in May 2006

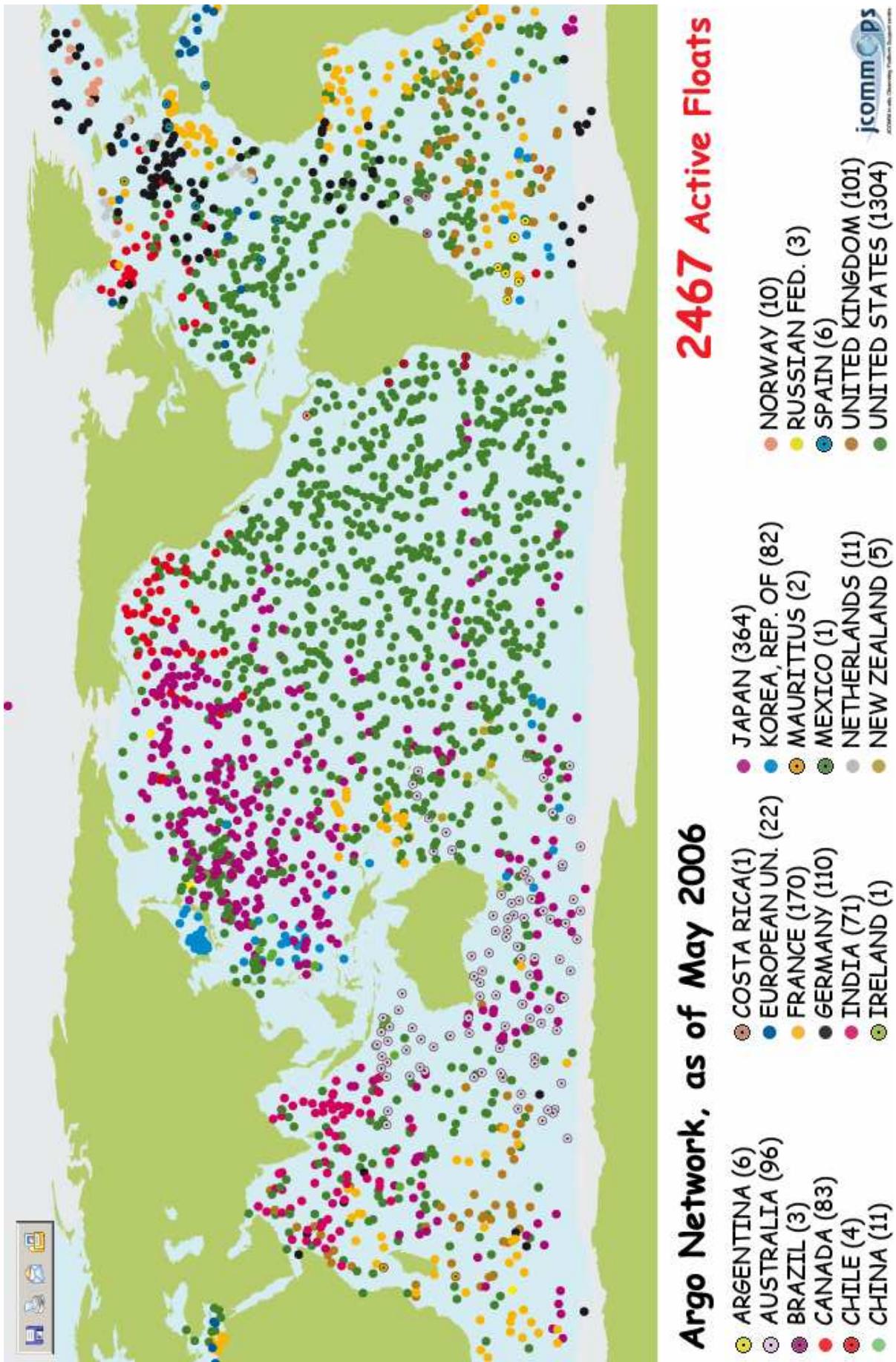


Figure 8 : System occupancy in April 2006 = 20.5%

System occupancy (All) 2.26 Erlang (2006/04/19) NB: 8186

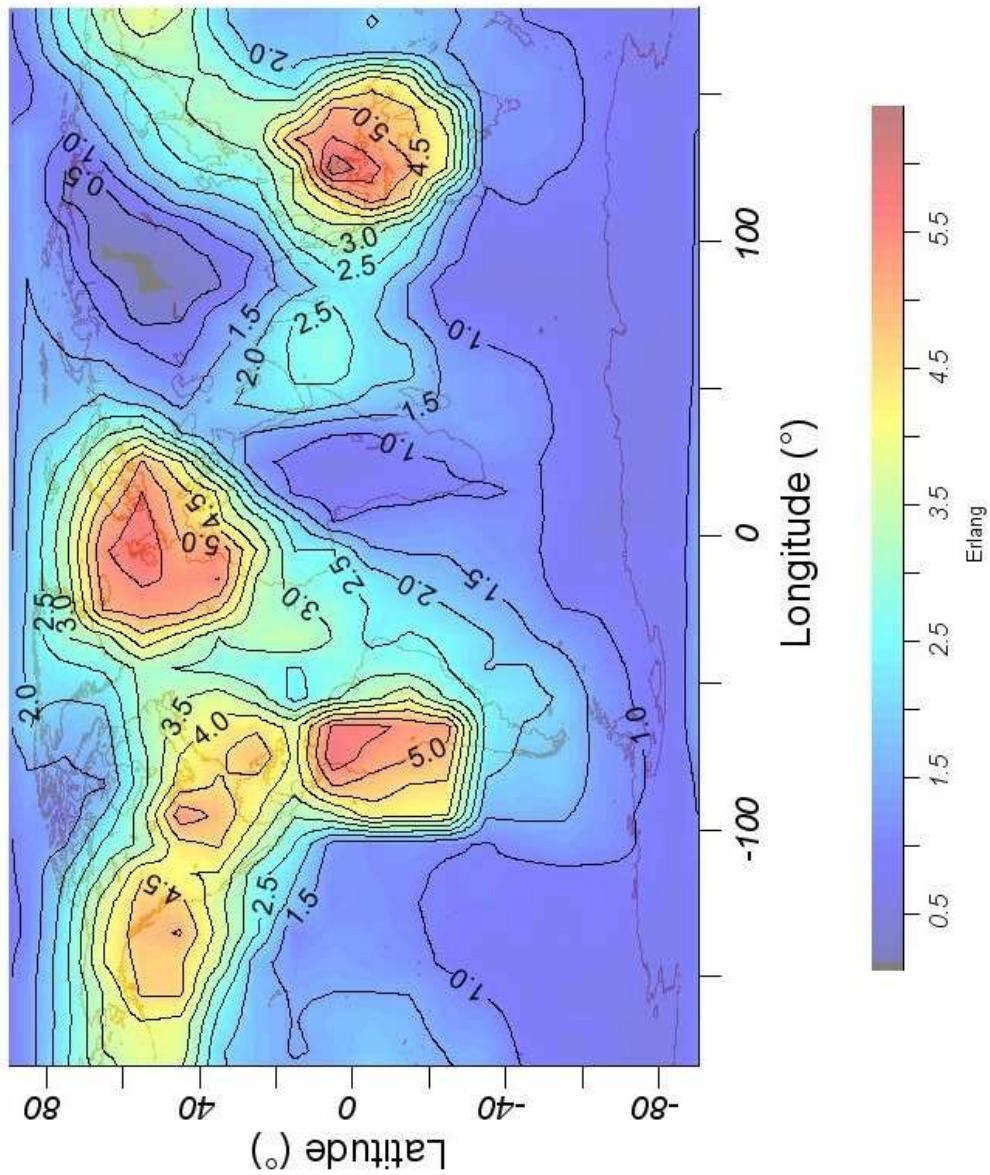


Figure 9 : Ground distribution of active platforms (Wildlife)

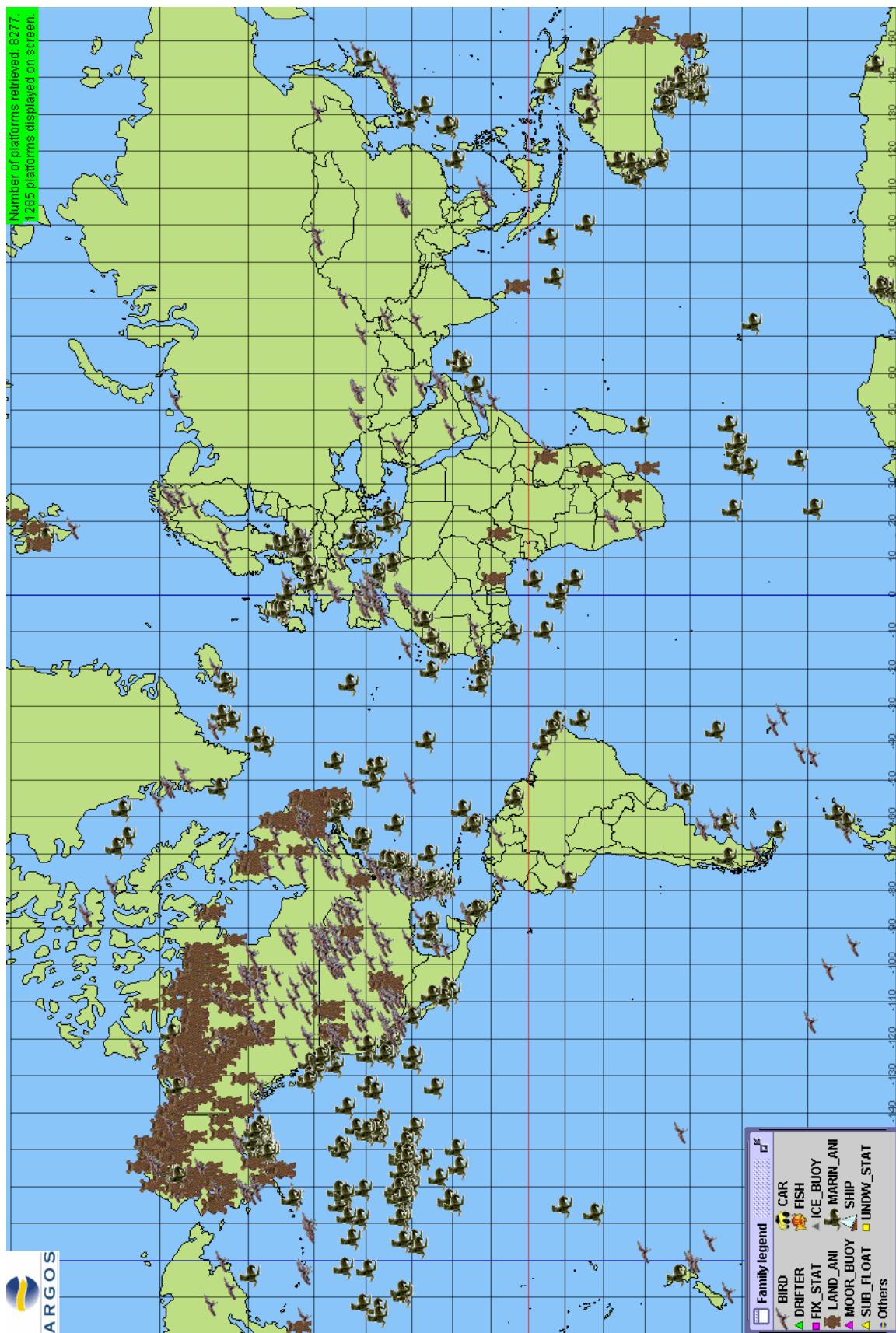


Figure 10 : Ground distribution of active platforms (Oceanography)

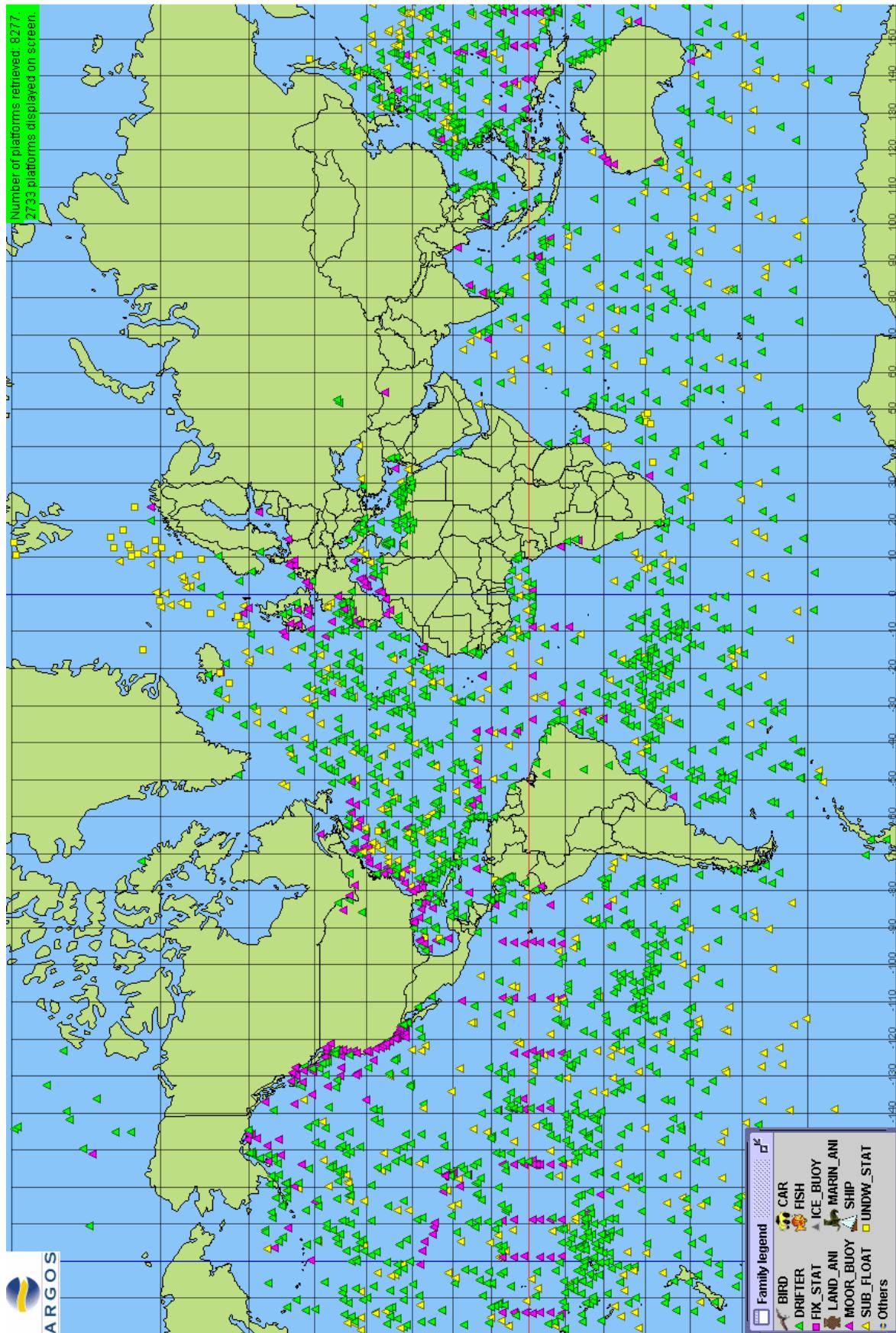


Figure 11 : Ground distribution of active platforms (Vessels)

